



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 5 : B68C 1/12, A01K 13/00	A1	(11) International Publication Number: WO 93/15998 ✓ (43) International Publication Date: 19 August 1993 (19.08.93)
(21) International Application Number: PCT/GB93/00305 (22) International Filing Date: 12 February 1993 (12.02.93) (30) Priority data: 9202980.0 13 February 1992 (13.02.92) GB (71)(72) Applicant and Inventor: ARNOLD, Sidney, Arthur [GB/GB]; 34 Fairwater Avenue, Welling, Kent DA16 2HY (GB). (74) Agent: DOBBIN, Jeremy, Michael, Mark; F.J. Cleveland & Company, 40-43 Chancery Lane, London WC2A 1JQ (GB).		(81) Designated States: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI pa- tent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: SADDLE-CLOTH		
(57) Abstract <p>A saddle-cloth (1) for interposition between an animal's back and a saddle comprises a layer of foamed polyvinylchloride of a density of between 130 and 160 kg/m³. One side of the layer has a plate finished surface. When the saddle-cloth (1) is placed on a horse the plate finished surface is juxtaposed the horse's back and it remains in frictional engagement with the horse's back even when the horse warms up and begins to sweat. The other side of the mat retains good frictional contact with the saddle thus substantially preventing any slippage of the saddle on the horse's back. Typically, the mat is between 4 and 12 mm thick and is shaped and configured to conform generally to the lower surface of the saddle. Being made of PVC the saddle-cloth (1) is easy to keep clean.</p>		

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Saddle-cloth

5 This invention relates to a mat, particularly to a mat
for placing on a horse's back beneath a saddle known
as a saddle-cloth or "Numnah". (variation Numdah).

10 Every year, many horse riders fall from their horses
when the saddle on which they are seated slips on
their horse's back and rotates round the midriff of
their horse thus throwing the rider onto the ground
under or to one side of the horse. Injuries which in
some cases are fatal often occur to a horse rider when
this happens. The wearing of a hat by the horse rider
15 helps to prevent injuries to the riders head. However,
serious injuries can still occur to a rider
particularly if the rider is either jumping or horse
racing. It is thus desirable to prevent such saddle
slippage in the first place.

20 Various types of saddle cloth are known. Most are
shaped to conform generally to shape of the lower
surface of a saddle. Known saddle-cloths are made of
quilted cotton, sheepskin or synthetic sheepskin.

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Although such saddle-cloths are an improvement over placing a saddle directly on the horse's back, some are designed for appearance rather than efficiency and they do not properly prevent saddle slip, they soak
5 up sweat from the horse, can be uncomfortable for a horse, and are often difficult to clean and in use become unpleasantly smelly very quickly. They are also quite expensive.

10 It is an object of the present invention to alleviate some or all of the above mentioned problems.

The present invention provides a mat for use as a saddle-cloth characterised in that it comprises a
15 layer of foamed polyvinylchloride, at least one face of said layer having a smooth surface, the arrangement being such that in use the mat is interposed between an animal's back and a saddle, with the smooth surface in frictional engagement with
20 the animal's back to prevent any substantial slipping of the saddle on the animal's back.

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The smooth surface may be "plate finished". This is done by passing the surface of the foamed polyvinylchloride layer over metal plates.

5 Typically, when used as a saddle-cloth for a horse, the mat will have a thickness of between 4 and 12mm although thicker or thinner mats are possible.

10 The preferred thickness of mat for use with racing saddles is around 6mm.

When the mat is for use as a saddle-cloth for show jumpers and the like a thickness of around 10mm is preferred for extra comfort.

15 Preferably, the density of the polyvinylchloride (PVC) foam is between 130 and 160 kg/m³.

20 The saddle-cloth is shaped and configured to conform generally to the lower surface of a saddle. Thus for a traditional saddle, the mat has a central area which in use fits beneath the central part of a saddle and two further areas on opposite sides to the central

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area which in use will rest over the upper area of horse's upper thigh beneath the depending flaps of the saddle.

5 The mat or saddle-cloth can be differently sized and shaped for use with the various different types of saddle such as horse-racing saddles, saddles for a child's pony, rodeo and western style saddles and the like. Further, while the specification refers almost
10 exclusively to use of a mat as a saddle-cloth for a horse, the mat could be used between a saddle or saddlery and any animal or indeed between any two objects which it is desired to keep in relative frictional engagement.

15 The mat could be permanently or releasably secured to the underside of a saddle to make the saddle and mat a single integral unit.

20 A specific embodiment of the invention will now be described by way of example only and with reference to the accompanying drawings in which:-

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Figure 1 is a view of a mat seen from above;

Figure 2 is a section through line I-I of figure 1; and

5

Figure 3 is a schematic drawing of a saddle with a mat secured to its underside.

10 Referring to the drawings, figure 1 shows a mat or saddle-cloth 1. The mat is configured for use beneath a conventional saddle. It comprises a central area 10 and side portions 12 and 14 which extend away from opposite sides of the central area.

15 The mat is made from a 10mm layer of PVC (polyvinylchloride) foam having a density of between 130 and 160 kg/m³. With reference to figure 2, the foam mat defines a first, or upper surface 16 and a second, or lower surface 18. The upper surface 16 has
20 a standard finish for foam PVC and is thus relatively rough and textured. The lower surface 18 is "plate finished" by passing the surface over metal plates. This gives surface 18 a smooth and even shine.

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In use, the mat is interposed between the back of a horse and a saddle. The smooth surface 18 grips the horse's back extremely firmly and prevents the mat sliding about on the horse. The saddle will stick to surface 16 satisfactorily, inter alia, because the saddle is far less slippery than the horse's back. If the horse gets hot and starts sweating as is usual when a horse is exercised, this does not adversely affect grip of the mat in contrast with existing saddle-cloths which lose grip when a horse sweats since the increased heat makes surface 18 stickier. The weight of the rider and saddle assist in keeping the mat and horse in frictional engagement.

15 The use of low density PVC foam makes the saddle mat soft, light and comfortable for the horse. The PVC foam is a cellular structure and is permeable to some of the horse's sweated moisture thus improving the comfort to the horse.

20 Being made of PVC foam, the saddle mat is easily washable and simple to keep clean and odour-free.

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Although, the above description relates to mat for use as a saddle-cloth for a standard horse saddle, it is to be understood that a saddle mat embodying the present invention can be made for any size of horse such as a pony or cob and for any shape of saddle. The invention is particularly suitable for use in horse racing in which case the saddle mat will be somewhat thinner, around 6mm and somewhat smaller so that it conforms with the shape of the racing saddle.

Figure 3 is a schematic diagram of a conventional saddle 20 which includes a central part 22 and side flaps 24 and 26. A mat 1 has been attached to the underside of the saddle which is conventionally juxtaposed a horse's back when the saddle is used. The rougher surface 16 of the mat is releasably or permanently secured to the lower surface 27 of the saddle. The plate finished surface 18 is then automatically superposed on a horse's back when the saddle 20 is placed on a horse.

The mat could be used between other animals and saddles. It could also be used to prevent relative movement between various items of saddlery, animal

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accessories and the like carried or worn by horses or other animals or between other objects other than horses and saddles.

- 5 In particular, a suitably configured mat could be used between a shin pad and the leg of a person such as a footballer wearing that pad with the plate finished surface of the mat in contact with the person's leg. The mat may also increase the players comfort because
- 10 it is flexible and can absorb blows and kicks to the shin pad.

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CLAIMS

1. A mat for use as a saddle-cloth characterised in
5 that the mat comprises a layer of foamed
polyvinylchloride, at least one face of said layer
having a smooth surface, the arrangement being such
that in use the mat is interposed between an animal's
back and a saddle, with the smooth surface in
10 frictional engagement with the animal's back to
prevent substantial slipping of the saddle on the
animal's back.

2. A mat as claimed in claim 1 characterised in that
15 the smooth surface is plate finished.

3. A mat as claimed in any preceding claim
characterised in that the layer has a thickness of
between 4 and 12mm.

20 4. A mat as claimed in any preceding claim
characterised in that the layer has a thickness of
between 6 and 10mm.

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5. A mat as claimed in claims 1, 2 or 3 characterised in that the polyvinylchloride foam has a density of between 130 and 160 kg/m³.

5 6. A saddle-cloth for interposition between a saddle and a horse's back, comprising a mat as claimed in any preceding claim, said saddle having a central part and side flaps, characterised in that said saddle-cloth defines a central portion which in use fits beneath
10 the central part of the saddle and two further portions disposed on opposite sides of the central area which in use rest over the upper area of a horse's upper thigh beneath the depending side flaps of the saddle.

15 7. An assembly comprising a saddle and a mat or saddle-cloth as claimed in any preceding claim secured to the underside of the saddle.

20 8. A mat for interposition between an animal and an item of saddlery or an accessory for that animal, characterised in that the mat comprises a layer of foamed polyvinylchloride defining a first and a second

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face, at least one side of the layer having a smooth surface, the arrangement being such that in use the mat is interposed between an animal and the item of saddlery or accessory with the smooth surface in frictional engagement with the animal and the second face in frictional engagement with the item of saddlery or accessory to prevent any substantial slipping of the saddlery or accessory with respect to the animal.

10

9. A mat according to claim 8 characterised in that the density of the polyvinylchloride foam is between 130 and 160 kg/m³.

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10. A mat according to claim 8 or claim 9 characterised in that the smooth surface is plate finished.

20

11. A mat for interposition between a shin pad and a leg characterised in that the mat comprises a layer of foamed polyvinylchloride, at least one face of said layer having a smooth surface, the arrangement being such that in use the mat is interposed between the leg

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and the shin pad with the smooth surface in frictional engagement with the leg to prevent substantial slipping of the shin pad on the leg.

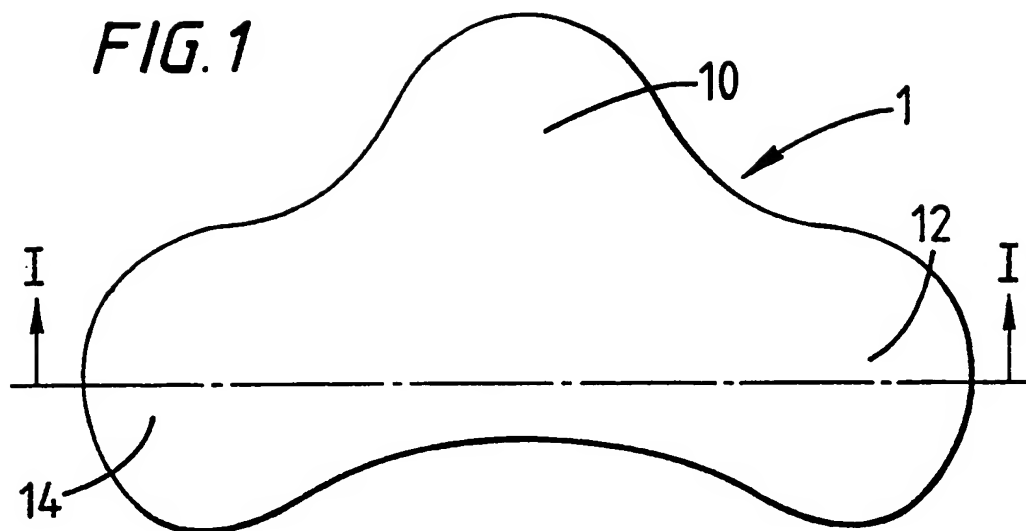
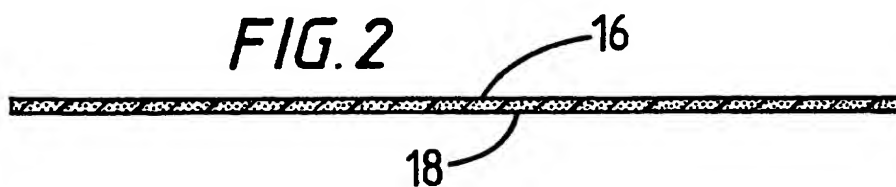
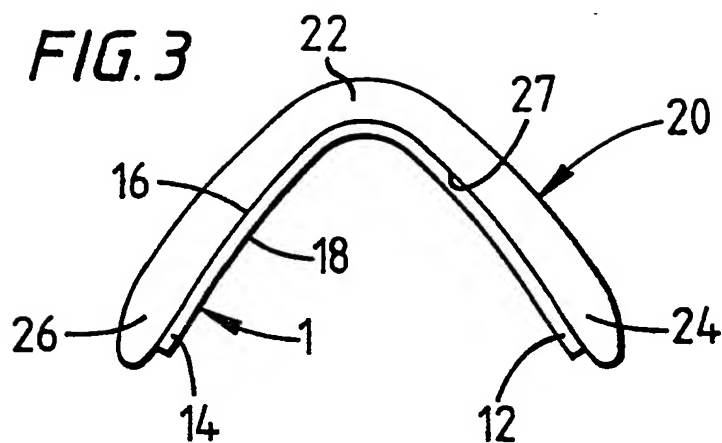
5 12. A mat as claimed in claim 11 characterised in that the smooth surface is plate finished.

10 13. A mat as claimed in any of claims 11 to 12 characterised in that the layer has a thickness of between 4 and 12mm.

14. A mat as claimed in any of claims 11 to 13 characterised in that the layer has a thickness of between 6 and 10mm.

15 15. A mat as claimed in any of claims 11 to 14 characterised in that the polyvinylchloride foam has a density of between 130 and 160 kg/m³.

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FIG. 1**FIG. 2****FIG. 3**

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 93/00305

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC		
Int.Cl. 5 B68C1/12; A01K13/00		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
Int.Cl. 5	B68C ; A01K	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹		
Category ⁹	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
A	US,A,3 466 852 (NORMAN H. STONER) 16 September 1969 see column 2, line 17 - line 33; figures ---	1,6,8
A	DE,A,2 821 475 (RAINER GARDE) 22 November 1979 ---	1,6,7,8
A	GB,A,2 241 632 (J. E. SALTER) 11 September 1991 see page 2, last paragraph; figure 6 -----	8,11
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IV. CERTIFICATION		
Date of the Actual Completion of the International Search		Date of Mailing of this International Search Report
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**ANNEX TO THE INTERNATIONAL SEARCH REPORT
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GB 9300305
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A-3466852	16-09-69	None	
DE-A-2821475	22-11-79	None	
GB-A-2241632	11-09-91	None	

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